Ask Jon Eakes

Pro: Working with Power Mitre Boxes

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The power miter box is the tool that drove the Radial Arm saw almost out of existence. Don?t get me wrong, I love miter boxes. But then again, I was the guy that wrote the book on how to use a Radial Arm Saw for precision furniture building. Most contractors only used their radial arm saws as cut-off saws, never aligning them very well and kind of beating them up as they went. So when the electric cut-off saw came out, the forerunner to today?s miter boxes, the radial arm saws began disappearing from the construction sites. I guess the writing was already on the wall.As the cut-off saw gained popularity, it also began to take on a lot of the finer aspects of the Radial Arm saw, in smaller more limited but more portable and perhaps more stable form. The compound saw showed up, giving both miters and bevels. Then the sliding arm showed up to give a slightly greater reach, one of the greatest limits of the first cut-off saws. So now the variety of styles, features and methods of getting all this movement in a small package has brought a confusing array of choices to the store shelf, and every one of you has chosen a favorite. However, just like with reviews of the old radial arm saws, the reviews I see on miter boxes tend to only talk about features, and not about helping you to actually use these machines. In fact, many of the problems of the radial arm saws are still there, so I feel almost at home adapting some of my old jigs and techniques to these new smaller saws.PortabilityBy definition, the power miter box is supposed to be portable. But do carry one around the store a bit before buying it. See how it locks tight for transportation. Is the handle in a good balanced position? Does it tear your leg off when you try to walk with it? Is there any good way to wrap up the cord? Just how heavy is it?Now weight is a problem. The lighter it is, the less it stays put while working with it. Does it clamp or screw easily onto a work surface, or perhaps it has anti-slip feet. Yes, some rubber feet can be a great addition to your miter box. Not only does this help to keep it from moving but can stop it from scratching nice hardwood floors during a renovation job.Modifying the back fenceI have seen at least one saw that attempted to make the back fence a little less slippery with some texture to the surface, but I didn?t find it very effective. No-one has yet put non-slip rubber strips into the back fence as I would do if I was designing these things. So in the meantime, you should do what I do to all miter boxes, hand or power. I glue (rubber adhesive, double sided carpet tape or self adhesive sandpaper) 100 grit sandpaper to the back fence. This almost eliminates the need for clamps when trying to cut angles. Raise it 1/8 of an inch off the bed to avoid catching splinters and dust at the bed/fence joint.Outboard supportsThe small table problem of the radial arm saw is even worse with these little miter boxes. In a shop you can build up counters on both sides of the saw. In the field I make three or four adjustable supports. I take a good flat 2x6 about 10 inches long. Put three adjustable feet on it so it can be leveled easily on any surface. I use captured nuts and machine bolts. These are very portable but can be placed close or far from the bed on either or both sides to hold steady whatever I am trying to cut.Compound cutsWhenever possible I avoid compound cuts. If the saw is big enough to cut a molding in a straight miter cut, I always do it that way because compound cuts are never as precise as straight miter cuts, the angles are just too crazy. It is fairly easy to remember how to do this, simply remember that the bed is the ceiling and the molding goes in up-side-down. Ideally you would clamp a fence along the bed that forces the molding to sit at just the right angle against both the bed and the back fence. By having the molding sitting in the saw the same way it sits on the wall, you only need simple 45 degree cuts. This provides repeatability throughout the job. You may even want to score the bed for the location of molding that you use most often.A few saws are beginning to put lock notches at the odd angles necessary for standard compound cuts but whether you are cutting straight miter cuts, or confusing compound cuts, I always cut a few sample pieces of molding: inside corner and outside corner pairs. These should be about 6 inches long and then you should write clearly on the face that these are templates (not to be thrown away) and on the back side, what they are (inside or outside, left or

right). When I need to cut a piece of real trim, I take the template up to the wall itself, put the samples together to make the corner I need, then bring the one I need to cut down to the saw. I place it into the saw and fiddle with it until it is in the right position for the blade to make that cut. Now I can replace my template with the real wood, without worrying that I am cutting it off in the wrong direction. I may look a bit dumb doing that, but I save a fortune in wasted moldings.Sawdust ControlWorking in the open, or in a raw construction site, sawdust is no real problem. But if you are working in a homeowner?s kitchen, the sawdust problem could even force you outdoors to make your cuts. Most bags that come with these saws manage to get about 70% of the dust. To get 95% of the dust you need to attach a shop vac to the dust spout. I suggest you go one step further and get a trigger activated shop vac with special filters, usually designated as drywall dust filters. This means that the vacuum goes on when you pull the trigger of the saw, and goes off about 30 seconds later ? cutting out the horrible noise factor. It also means that all of the sawdust stays in the machine rather than blowing through as with most ordinary filters.So choose the saw that best suits the type of work you do ? and then all of these tips can be applied to whatever machine you select.**Originally published as an article by Jon Eakes in Home Builder Magazine, the magazine of the Canadian Home Builder's Association.

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